Tender Specification
Text for tenders for EDS500 managed Ethernet SHDSL Switches

Introduction

The document provides specifications for EDS500 500NMDxx series products (EDS500 managed switches) to use with tenders.

EDS500 managed switches provide Ethernet based communication including wide area networking via fiber optical SFP modules as well as SHDSL via copper lines. In addition, serial interfaces can be used to connect legacy devices.
500NMD01

Ethernet switch with four 10/100 Ethernet RJ-45 interfaces, position at front, indicators must provide speed and combined link/activity status.
One SHDSL 2-wire interface providing up to 15 Mbps data rate via pluggable screw connector, position on bottom side, indicators must provide link and activity separately.
One serial interface with RJ-12 connector, indicators must show activity and DCD separately, RS-232 and RS-485 mode as well as RS-485 termination resistors changeable by software configuration.
One alarm relay with isolated switchover contact, position at top.
DIN-rail snap-in mountable, 24 to 60 VDC supply voltage, no moving parts, max width 45 mm, max height 99 mm plus connectors, all indicators must be at the front side, all connections pluggable. Maximum time allowed for reboot is 15 seconds (SHDSL connections may take longer to come up again).

Features required:
Support for hot-pluggable memory device to transfer and hold configuration, predictive failure notification, command line interface (accessible via serial, telnet, ssh, web browser), Option for Power over Ethernet (width may increase), access control lists on any interface, rate limiting, mirror port, serial ports usable as data and configuration interfaces, multipoint transmission capability for serial data, all interfaces can be disabled, all protocols can be disabled.

Management protocols required:

Redundancy protocols required:

Other protocols required:
IPv6, NTP RFC 5905, DHCP client RFC 2131 and 2132, DHCP relay RFC 3046 and 5010, Class of Service IEEE 802.1p with a minimum of four hardware queues, Virtual Local Area Network IEEE 802.1Q-2005, Port based Network Access Control IEEE 802.1X-2004 including MAC authentication bypass.

Environmental and EMC requirements:
-40 °C to 80 °C operating temperature range at 5 % to 95 % rel. humidity (non-condensing), Immunity against sinusoidal vibration IEC 60068-2-6 Test Fc, EN 300 019-2-8 T8.1 class 3M5 and IEC 60255-21-1 class 2,
Immunity against broad-band random vibration IEC 60068-2-64 Test Fh, EN 300 019-2-8 T8.1 class 3M5,
Immunity against shock IEC 60068-2-27 Test Ea, EN 300 019-2-8 T8.1 class 3M5 and IEC 60255-21-2 class 1,
Immunity against hammer IEC 60068-2-75 Test Eh, energy 0.2 J
EN 50125-3 climate class T1 and T2, IEC 61000-6-2, EN 50121-4, IEC 61850-3, 4 kV burst immunity acc. to IEC 61000-4-4 for Ethernet, Power, serial and SHDSL interfaces, 4 kV surge immunity acc. to IEC 61000-4-5 for Ethernet, Power and serial interfaces, 6 kV surge immunity acc. to IEC 61000-4-5 for SHDSL interfaces, 2.5 kV damped wave immunity acc. to IEC 61000-4-18.

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**500NMD02**

Ethernet switch with four 10/100 Ethernet RJ-45 interfaces, position at front, indicators must provide speed and combined link/activity status.

Two SHDSL 2-wire interfaces each providing up to 15 Mbps data rate via pluggable screw connector, position on bottom side, indicators must provide link and activity separately.

One serial interface with RJ-12 connector, indicators must show activity and DCD separately, RS-232 and RS-485 mode as well as RS-485 termination resistors changeable by software configuration.

One additional RS-232 serial interface with RJ-12 connector, indicators must show activity and DCD separately.

One alarm relay with isolated switchover contact, position at top.

DIN-rail snap-in mountable, 24 to 60 VDC supply voltage, no moving parts, max width 68 mm, max height 99 mm plus connectors, all indicators must be at the front side, all connections pluggable. Maximum time allowed for reboot is 15 seconds (SHDSL connections may take longer to come up again).

Features required:
Support for hot-pluggable memory device to transfer and hold configuration, predictive failure notification, command line interface (accessible via serial, telnet, ssh, web browser), Option for Power over Ethernet (width may increase), access control lists on any interface, rate limiting, mirror port, serial ports usable as data and configuration interfaces, multipoint transmission capability for serial data, all interfaces can be disabled, all protocols can be disabled.

Management protocols required:

Redundancy protocols required:

Other protocols required:
IPv6, NTP RFC 5905, DHCP client RFC 2131 and 2132, DHCP relay RFC 3046 and 5010, Class of Service IEEE 802.1p with a minimum of four hardware queues, Virtual Local Area Network IEEE 802.1Q-2005, Port based Network Access Control IEEE 802.1X-2004 including MAC authentication bypass.

Environmental and EMC requirements:
-40 °C to 80 °C operating temperature range at 5 % to 95 % rel. humidity (non-condensing), Immunity against sinusoidal vibration IEC 60068-2-6 Test Fc, EN 300 019-2-8 T8.1 class 3M5 and IEC 60255-21-1 class 2,
Immunity against broad-band random vibration IEC 60068-2-64 Test Fh, EN 300 019-2-8 T8.1 class 3M5,
Immunity against shock IEC 60068-2-27 Test Ea, EN 300 019-2-8 T8.1 class 3M5 and IEC 60255-21-2 class 1,
Immunity against hammer IEC 60068-2-75 Test Eh, energy 0.2 J
EN 50125-3 climate class T1 and T2, IEC 61000-6-2, EN 50121-4, IEC 61850-3,
4 kV burst immunity acc. to IEC 61000-4-4 for Ethernet, Power, serial and SHDSL interfaces,
4 kV surge immunity acc. to IEC 61000-4-5 for Ethernet, Power and serial interfaces,
6 kV surge immunity acc. to IEC 61000-4-5 for SHDSL interfaces,
2.5 kV damped wave immunity acc. to IEC 61000-4-18.
500NMD11

Ethernet switch with four 10/100 Ethernet RJ-45 interfaces, position at front, indicators must provide speed and combined link/activity status.

One SHDSL 2-wire interface providing up to 15 Mbps data rate via pluggable screw connector, position on bottom side, indicators must provide link and activity separately.

One Ethernet based SFP slot interface, position at front, indicators must provide module presence, link and activity status separately.

One serial interface with RJ-12 connector, indicators must show activity and DCD separately.

One alarm relay with isolated switchover contact, position at top.

DIN-rail snap-in mountable, 24 to 60 VDC supply voltage, no moving parts, max width 68 mm, max height 99 mm plus connectors, all indicators must be at the front side, all connections pluggable. Maximum time allowed for reboot is 15 seconds (SHDSL connections may take longer to come up again).

Features required:
Support for hot-pluggable memory device to transfer and hold configuration, predictive failure notification, command line interface (accessible via serial, telnet, ssh, web browser), Option for Power over Ethernet (width may increase), access control lists on any interface, rate limiting, mirror port, serial ports usable as data and configuration interfaces, multipoint transmission capability for serial data, all interfaces can be disabled, all protocols can be disabled.

Management protocols required:

Redundancy protocols required:

Other protocols required:
IPv6, NTP RFC 5905, DHCP client RFC 2131 and 2132, DHCP relay RFC 3046 and 5010, Class of Service IEEE 802.1p with a minimum of four hardware queues, Virtual Local Area Network IEEE 802.1Q-2005, Port based Network Access Control IEEE 802.1X-2004 including MAC authentication bypass.

Environmental and EMC requirements:
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Immunity against shock IEC 60068-2-27 Test Ea, EN 300 019-2-8 T8.1 class 3M5 and IEC 60255-21-2 class 1,

Immunity against hammer IEC 60068-2-75 Test Eh, energy 0.2 J

EN 50125-3 climate class T1 and T2, IEC 61000-6-2, EN 50121-4, IEC 61850-3,
4 kV burst immunity acc. to IEC 61000-4-4 for Ethernet, Power, serial and SHDSL interfaces,
4 kV surge immunity acc. to IEC 61000-4-5 for Ethernet, Power and serial interfaces,
6 kV surge immunity acc. to IEC 61000-4-5 for SHDSL interfaces,
2.5 kV damped wave immunity acc. to IEC 61000-4-18.
500NMD20

Ethernet switch with four 10/100 Ethernet RJ-45 interfaces, position at front, indicators must provide speed and combined link/activity status.

Two Ethernet based SFP slot interfaces, position at front, indicators must provide module presence, link and activity status separately.

One serial interface with RJ-12 connector, indicators must show activity and DCD separately, RS-232 and RS-485 mode as well as RS-485 termination resistors changeable by software configuration.

One additional RS-232 serial interface with RJ-12 connector, indicators must show activity and DCD separately.

One alarm relay with isolated switchover contact, position at top.

DIN-rail snap-in mountable, 24 to 60 VDC supply voltage, no moving parts, max width 68 mm, max height 99 mm plus connectors, all indicators must be at the front side, all connections pluggable. Maximum time allowed for reboot is 15 seconds.

Features required:
Support for hot-pluggable memory device to transfer and hold configuration, predictive failure notification, command line interface (accessible via serial, telnet, ssh, web browser), Option for Power over Ethernet (width may increase), access control lists on any interface, rate limiting, mirror port, serial ports usable as data and configuration interfaces, multipoint transmission capability for serial data, all interfaces can be disabled, all protocols can be disabled.

Management protocols required:

Redundancy protocols required:

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500NMD30

Ethernet switch with four 10/100 Ethernet RJ-45 interfaces, position at front, indicators must provide speed and combined link/activity status. One serial interface with RJ-12 connector, indicators must show activity and DCD separately, RS-232 and RS-485 mode as well as RS-485 termination resistors changeable by software configuration. One alarm relay with isolated switchover contact, position at top. DIN-rail snap-in mountable, 24 to 60 VDC supply voltage, no moving parts, max width 45 mm, max height 99 mm plus connectors, all indicators must be at the front side, all connections pluggable. Maximum time allowed for reboot is 15 seconds.

Features required:
Support for hot-pluggable memory device to transfer and hold configuration, predictive failure notification, command line interface (accessible via serial, telnet, ssh, web browser), Option for Power over Ethernet (width may increase), access control lists on any interface, rate limiting, mirror port, serial ports usable as data and configuration interfaces, multipoint transmission capability for serial data, all interfaces can be disabled, all protocols can be disabled.

Management protocols required:

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IPv6, NTP RFC 5905, DHCP client RFC 2131 and 2132, DHCP relay RFC 3046 and 5010, Class of Service IEEE 802.1p with a minimum of four hardware queues, Virtual Local Area Network IEEE 802.1Q-2005, Port based Network Access Control IEEE 802.1X-2004 including MAC authentication bypass.

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## References

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<thead>
<tr>
<th>Product</th>
<th>Reference(s)</th>
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<tr>
<td>EDS500</td>
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## Contact

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